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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,382	09/21/2000	Marc Rabarot	025219-272	2963

7590 01/10/2005  
Thelen Reid & Priest LLP  
P.O. Box 640640  
San Jose, CA 95164-0640

EXAMINER
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
BLOUNT, STEVEN

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b> 	
	09/601,382	RABAROT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Steven Blount	2661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14 - 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14 - 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. The affidavit submitted under 37 CFR 1.132 filed 8/9/2004 is sufficient to overcome the rejection of claims 14 – 30 under 35 U.S.C. 112 first paragraph based upon applicants statement of reduction to practice.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 14, 16, 17, 24, 25, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent 5,621,746 to Futatsugi et al.

Forming laser diode 20 (col 4, lines 50+) is taught in Futatsugi et al, wherein microreliefs are formed “grooves 3 are cut” in the semiconductor substrate, through the electrode 10 by a dicing machine, leaving a thickness d of the semiconductor substrate 1 (col 4, lines 64+, see also fig 2B where groove 3 is shown) where the groove bottom width is 40 um. It is stated that though slanted surfaces are shown, parallel surfaces could be used as well (col 5, lines 10+).

In col 5 lines 11+, it is stated that dicing is used to form the microreliefs. It is observed that dicing is known to those skilled in this art to be carried out by moving the cutting tool transverse and parallel to the substrate.

In col 5 lines 13+, the final claimed step of cutting the substrate into bits is taught, wherein the “wafer is cut off, ie, pelletized into desired semiconductor lasers.”

With regard to claim 16, the optically roughened surface thus formed (see abstract) is a surface with an “optical quality”.

With regard to claim 17, a single tool is used in Futatsugi et al.

With regard to claim 24, etching is taught in col 6 line 12.

With regard to claim 25, planarizingly coating is taught in col 4 line 50.

With regard to claim 28, see the rejection of claim 1 where all of the claimed features are described.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18 – 20, 22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,621,746 to Futatsuge et al.

With regard to claim 18, Futatsuge et al teaches the invention as described above. Further, while Futatsuge et al does not explicitly teach making the microrelief using more than one tool (ie, cutting blade), one of ordinary skill in this art would find it an obvious distinction between whether only one, or more than one of these such tools are used to form the reliefs.

With regard to claim 19, a “dicing machine” would be an obvious form of a saw.

With regard to claim 20, the members shown in figure 2B which are ultimately formed are an obvious type of "prism".

With regard to claim 22, a saw of plane and parallel faces is an obvious form of saw in this art (ie, circular cutting saws).

With regard to claim 27, see the rejection of claim 1, and with respect to the vertical dimension of the microreliefs, one of ordinary skill in the art looking at figure 2B with knowledge that the width is 40 um would realize that the depth would fall within the range of 10 to 600 um.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,621,746 to Futatsuge et al as applied to claim 14, and further in view of U.S. patent 6,039,632 to Robertson.

Futatsuge et al teaches the invention as described above, but does not teach finishing. This is taught in Robertson. See abstract. It would have therefore been obvious to one of ordinary skill in the art at the time of the invention to have finished the surfaces formed in Futatsugi in light of the teachings of Robertson in order to allow the light to be "able to propagate in a generally axial direction through the slab" (abstract).

6. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,621,746 to Futatsuge et al as applied to claims 14 and 20, and further in view of U.S. patent 5,868,125 to Maoujoud.

With regard to claim 21, Futatsuge et al teaches the invention as described above, but does not teach finishing using a V profile abrasive blade to cut the microprisms. This is taught in Maoujoud. See abstract and figure 1. Therefore,

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It would have been obvious to one of ordinary skill in the art to have formed the microprisms in Futatsuge et al using a V profile abrasive blade in light of Maoujoud in order to be able to form these members in dense, hard surface substrates.

With regard to claim 26, abrasive grits are present in the blade of Maoujoud.

7. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,621,746 to Futatsuge et al as applied to claim 14, and further in view of U.S. patent 5,842,912 to Holzapfel.

Futatsuge et al teaches the invention as described above, but does not teach the blade acting as a carrier for polishing abrasive. This is taught in Holzapfel. See col 6 lines 60+ (abrasive slurry). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the blade of Futatsuge et al as a carrier for the grits in Holzapfel in order to effectively distribute distribute the grits during groove formation and thus help form the groove.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or, the response may be faxed to: (703) 872-9306.

For formal communications intended for entry, or for informal or draft communications, please label "PROPOSED" OR "DRAFT".


Any inquiry concerning this communication should be directed to Examiner Steven Blount, whose telephone number is (571) 272 – 3071.

Examiner Blount may normally be reached Monday through Friday

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between the hours of 9:00 and 5:30. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Kenneth Vanderpuye, may be reached at (571) 272 – 3078.

SB 12/31/04



KENNETH VANDERPUYE  
PRIMARY EXAMINER